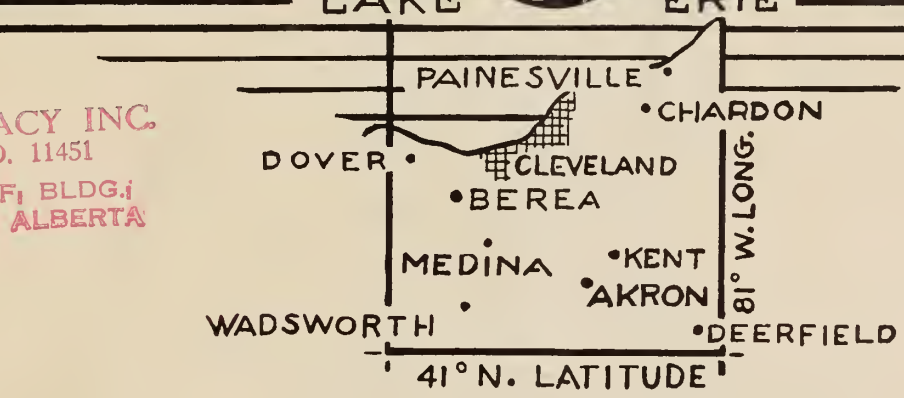
C

CLEVELAND - 81° - 41°
11938

81-41



MARCH, 1938

Featured in This Issue:

HOWARD SCOTT'S SPEAKING TOUR

FUNCTIONAL ABILITY AND THE SOCIAL MECHANISM
By A. S. Worsey

TECHNOCRACY, INC.
OFFICIAL MONTHLY PUBLICATION OF
REGIONAL DIVISION 81-41
CLEVELAND, OHIO

TECHNOCRACY PUBLICATIONS

Continental Headquarters of Technocracy Inc. are at 250 E. 43d St., New York.

Following is a list of publications of Technocracy Inc. and its authorized Sections. For copies address them as below:

TECHNOCRACY, the Official Magazine of Technocracy Inc., 250 E. 43d St., New York. Subscription rates: 12 numbers for $1.50; 8 numbers for $1.00.

Technocracy Digest, 319 W. Pender St., Vancouver, B. C.; $1.00 for 12 numbers.

The Technocrat, 2270 Colorado Blvd., Los Angeles, Calif.; $1.00 for 12 numbers.

The Section Post, P. O. Box 1003, Portland, Oregon; $1.00 for 12 numbers.

Northern Technocrat, Box 517 Edmonton, Alberta; $1.00 for 12 numbers.

The Foothills Technocrat, 211 Oddfellows Bldg., Calgary, Alberta; $1.00 for 12 numbers.

Streamline Age, 339 First Ave., Phoenix, Arizona; $1.50 for 12 numbers.

Technocratic America, R.F.D. 2, Fontana, Calif.; 50c for 12 numbers.

The Southwest Corner, 3972 Mississippi St., San Diego, Calif.; 50c for 12 numbers.

The Desert Salute, Box 123, Hinkley, Calif. Free with postage for mailing.

OFFICIAL LITERATURE

Technocracy: Some Questions Answered. Single copies 10 cents.

America Prepares for a Turn in the Road, by Howard Scott. Single copies 5 cents.

Introduction to Technocracy, by Howard Scott and Others. Single copy 25 cents.

Science vs. Chaos, by Howard Scott. Single copy 10 cents.

Order above from your nearest Section or from CHQ at above address.

Eighty-One · Forty-One

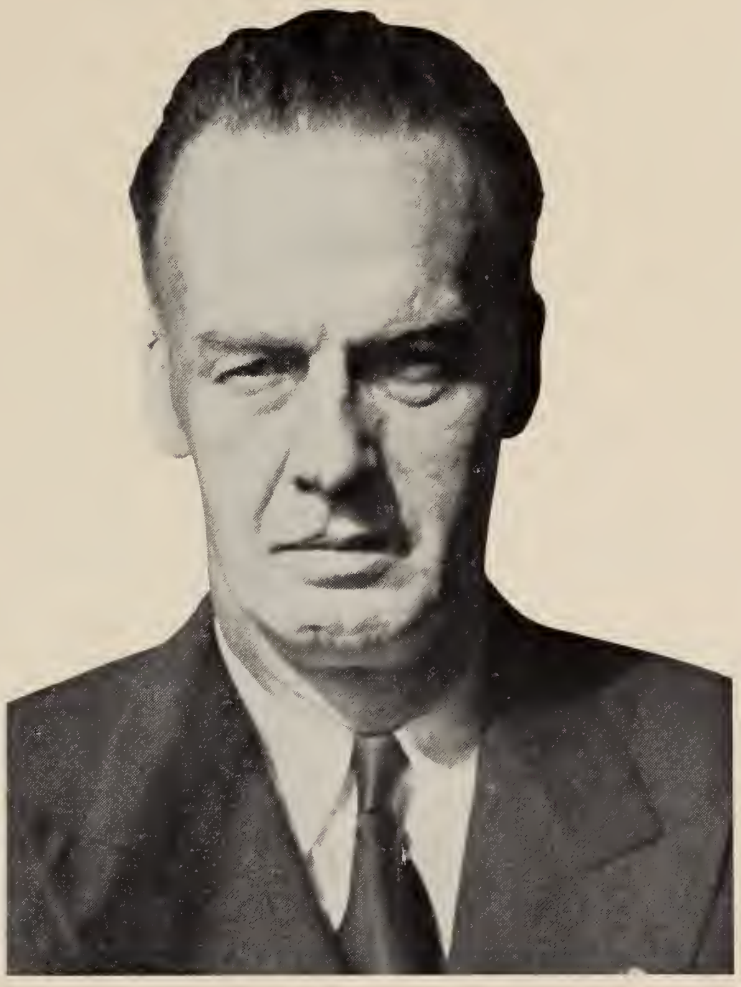
Third Year, Number 8 — 65 — March, 1938

Table of Contents

PRINTED IN U. S. A.

EIGHTY-ONE FORTY-ONE is a monthly magazine published by Regional Division 8141, at 791 The Old Arcade, Cleveland, Ohio. Subscription rates are $1.00 a year, 50c for six months. Bundle rates in lots of 10 or more are 8c each, payable on receipt of bundle. Address all communications and make all remittances payable to "Technocracy, Inc., R. D. 8141, 791 The Old Arcade, Cleveland, Ohio."

HOWARD SCOTT TOUR, SPRING, 1938



ONE of the most important and opportune speaking tours of our Director-in-Chief's begins in Cleveland, April 17, 1938. (For a tentative list of dates see back cover).

This tour will cover at least 14 cities with a combined population of more than 10,000,000, and an area occupied by more than 42 million inhabitants. This region has also the distinction of being the most highly industrialized and mechanized single area of anywhere comparable size in the world. These 42 million people could not exist a week if these industrial functions should suddenly cease operations. And yet at this very moment, industrial conditions in this area are threatened with that very calamity in the near future.

This vast industrial population and their agricultural dependents are becoming more acutely conscious of this situation every day. People are beginning to realize that the politicians are helpless, that all the proposed schemes for increasing purchasing power through Government doles, taxation schemes, wage and hour bills, farm stabilization plans, housing programs, and others are getting us nowhere fast except into more and worse complications and difficulties.

Howard Scott, from 1921 to date has time and again predicted the course of events. And in every instance his forecasts, though seeming at the time fanciful or overdrawn, have turned out to be really conservative.

Come to the MUSIC HALL, Public Auditorium, Cleveland, Monday, April 18, and listen to Howard Scott's scientific analysis of the course of events and of their most probable outcome. All Technocrats and supporters are expected as a matter of course to get behind these meetings with all their energy. For information call at Cleveland Headquarters, 791 The Old Arcade, or phone MAin 8745.

Confusion at the Top

THE recent declaration of Mr. Lammot du Pont, at the December meeting of the National Association of Manufacturers, to the effect that American industrialists if willing to expend $25,000,000,000 in a long-time pool, may put some 3,000,000 more to work, provided further, that government and labor will co-operate and not interfere with industry's plan, is a sample of how blind are the men at the top regarding the present Price System dilemma in America. This same blindness is shown also in the "Platform for American Industry for 1938" made public at this session by the National Association of Manufacturers. Said the latter:

"What this country needs is business confidence. Business will move forward producing more goods, and therefore more jobs—if it is permitted to face the future with only the natural hazards of legitimate private competition."

Charles F. Kettering, Vice-President of General Motors, echoed the same refrain in an interview in Detroit recently. He said that re-employment is dependent upon "getting new things for people to do. We are not technologically ahead of social progress. We are technologically behind."

The Price System Game

The confusion above lies in the unwillingness or inability of these industrialists to see and to face the social implications accruing through the rules of their game and the applications thereof. "Private competition" held unbridled sway during the greater part of the nineteenth century. Anarchy had wide range as a technique of social progress. But the industrialists of a couple of generations back perceived the folly of that course, and proceeded to consolidate their private rackets in the direction of monopolies. In this process they made co-operating entities of their former competitors. But the fact that the lambs were now inside and at peace with the lion, did not do away with the further fact that there were other lions that must be subdued. Competition was merely raised to a higher and apparently more efficient plane. The rules of the game remained fundamentally the same. It was still the same old Price System, now evolving under the accelerating impetus of a technology that was getting more and more new as well as old things done by machines and requiring less human muscles per unit of production.

One of the postulates of a Price or Exchange economy is, that you cannot keep on increasing production indefinitely at a given compound interest rate, while at the same time you are undermining purchasing power, available through wages and salaries, by substituting kilowatt-hours for man-hours. No matter how rapid the increase in population or how substantial the rise in the standard of living of that population at the outset of this process, the time must come when the impact of advancing technology will catch up with the limits of industrial expansion of a given area, overtake the slower rate of population growth and, through the recession of man-hours, react disastrously upon the standard of living. Just to make the picture of what happened in America a bit clearer, let us submit a few figures:

Population and Man-Hours

From 1790 until 1860 population in the United States was expanding at a compound rate of increment of about 3% per annum. Since 1860 this rate of increment per year has been steadily decreasing until for the decade 1920-1930, it was only 1½%. In 1914 the annual increment to the total population was approximately 1,800,000, while in 1934, the annual increment had declined to approximately 800,000. Recent government estimates from Washington covering the past five years show about 4,000,000 increase in the total U. S. population.

In the matter of man-hours, in 1919 there were 10 800,000 people in the manufacturing industries of the United States working an average of 54 hours per week. In that year the total number of man-hours was 29 billion. In 1929 there were 8,800,000 people working an average work week of 48 hours. The total man-hours were 20 billion. In 1936 there were 7,800,000 in these same industries and the total man-hours were 11 billion. As Howard Scott remarked: "If you would observe this on a chart it would look like that old sign: 'Going, going, gone'." In 1929 the national income was around 80 billion dollars. In 1936 it was 60 billion dollars, with production almost up to the 1929 level. Even conservatives asked the question: How can we hope to sustain a boom like that of 1929 on a national income only three-quarters as great in 1936? In 1929 there was an estimated total of unemployed of about 3 or 4 millions. In 1936 the more conservative estimates placed the number at between 7½ and 9 millions, to say nothing of the reduction in total man-hours

and therefore in incomes available for purchasing power. Still we have the fact of the devastating breakdown of 1929 and after.

The Abdication of Private Enterprise

Following the crash of 1929, the Federal Government was compelled to assume the role of chief debt creator. "Private enterprise" was paralyzed and had abdicated. Since then some 20 billion dollars were distributed through government agencies to banks and other financial institutions, to railroads and other industrial concerns, to farmers and to the unemployed. Taxes failed to balance these expenditures, and the national debt jumped up to 37 billion dollars. Still, the pump-priming brought a steady upsurge in business and industrial activity, until the government reversed its policy and started to retrench, when the whole structure collapsed once again in the "recession" of 1937. Meanwhile, technology has continued to replace man-hours with kilowatt-hours, until it is predictable, according to Scott that by 1939, "with the same relative employment in the manufacturing industries you will have to reduce the work week to 22 hours. But," says he, "to keep up the purchasing power you will have to pay three times as much for one-half the man-hours of 1929. Do you think this will be so?"

What Do the Manufacturers Want?

Obviously, under the conditions at the end of 1937, the suggestion that "private competition" be restored to its old form and that private industry be given a free hand to "restore prosperity," is chimerical. Nor is it clear that this is what the manufacturers want. Their proposal suggests the "totalitarian state" with the strong arm of the federal government still supporting them and somehow underwriting their debt claims, while keeping labor under firm control. But, again we ask, do they really think this will solve their problem? The totalitarian states of Europe are soaking the rich—in fact, bringing them through drastic taxation down to the income levels of the rest of the population—and swiftly approaching bankruptcy and a state of non-functioning in the process. How long might such a fascist set-up last in America, whose energy-momentum is so much greater?

The American financiers and the American politicians from Roosevelt down have reached an impasse. They can offer no solution for our dilemma, simply because they are seeking that solution within and under the rules of a Price System game. Technology has checkmated them, and the game is over for good. There is now no beginning again with the same rules. A new game only, with new rules, must be substituted. But neither the financiers nor the poiticians can play this new game. Only industrialists proper, who are executives and technicians, along with functionally-capable people from all walks of life, fit into the practical scheme of installing, operating and maintaining this new social set-up that will bring and distribute abundance to our harassed population. TECHNOCRACY INC. HAS THE DESIGN!

An Eden for New America

By Our Technology Observer

IN THESE last days of a worn out Price System a job has been begun that Technocracy will have to finish.

In the "Compressed Air Magazine" of January, 1938, we find an interesting account entitled, "Reclaiming the Everglades." The forces of both the state and national governments have combined and with suction dredges and steam shovels are digging drainage canals, hundreds of miles of them; at the same time locks, levees and dams are being constructed that will eventually put over 4,000,000 acres under cultivation.

The Lake Okeechobee Area

This has been attempted before, but this time they are doing it more thoroughly. They are not only draining this land but are preventing the overflow from Lake Okeechobee from flooding them.

Lake Okeechobee is said to be the second largest body of water wholly within the United States. Its normal surface is 730 square miles; its normal depth is 15 feet. The lake acts as a catch basin for a water shed of nearly 4,200 miles. The excess water has poured over the south rim of the lake's basin and down into the Everglades for an unknown length of time and has carried with it a fine rich silt which has settled in a vast shallow limestone basin.

The depth of the silt varies from two to twelve feet. It lacks certain mineral salts which can be easily and cheaply added. The coarse swamp grass formerly took several years of cultivation to subdue, but now the agricultural chemist steps into the picture and the grass is gone.

The excess water from Lake Okeechobee

is taken care of by a succession of levees from 8 to 10 feet above the level of the ground and four main canals which detour the flood waters and carry them to the Atlantic.

Great Horticultural Possibilities

Here is a soil with an abundance of rainfall and sunshine situated in a subtropical climate where crops can be raised the year around and easily transported to the most populous sections of the country. Here can be raised citrous fruits, corn for grain, sweet potatoes, white potatoes, peanuts, celery, pears. peaches, sugar cane, cotton and tropical fruits.

It is said that sugar cane attains the height of ten feet, cotton ripens three months sooner than elsewhere in the United States. Palm nuts, which ordinarily take three months to sprout, push their leaves through the soil in less than two weeks. Beans and peanuts are hardly planted before their sprouts appear and bananas will bear in half a year.

Here under a Technate a whole stateful of "dust bowl" farmers could find occupation in a vast out-of-doors hydroponic production plant, in an ideal climate, with a feature that appeals to me—good fishing on both sides of it. Under our decadent Price System the opening of this area will not only result in depriving other farmers of a livelihood, but will not even permit these and those dispossessed from the "dust bowl" to occupy tourist camps on the fringes of this Eden.

New Dress Materials for Milady

In the textile world there seems to be something new all the time. Evidently, says Our Technology Observer, it will not be long before we can wear anything we don't eat.

Lanital, an artificial wool, is made from milk. Cheese wool seems to be the trade name for it, and now fish has been added to the list. Professor Michaels of Munich-Gladbach has produced synthetic wool from albumen, with fish as the possible source. This is also being done in Russia. The claim is made that these fibres are more solid than those made from milk and have the same warming properties as natural wool.

According to the "Textile World" of January, 1938: "Here is a possible shopping list milady may be carrying soon:

"Sports dress—from oysters. Hosiery—from rocquefort cheese. Scarf—from halibut. Cloak—from jello (orange flavor)."

Howard Scott Meeting, April 18

The Fascist Bogey in America

[The New York-World Telegram of February 8 contains pictures under this heading: "Canadian Fascists Plan March on Ottawa." One picture shows "uniformed fascists giving the salute familiar in Europe as they drill in a hall in Montreal." The World-Telegram says: "Adrien Arcand, head of the Fascist organization throughout Canada, has announced that he will lead a march of his followers to the Dominion Capitol in Ottawa. The followers of Arcand are organized along military lines, much as the Nazi Storm Troopers in Germany."]

Commenting on these pictures, the Division of Publications, CHQ, Technocracy Inc., says:

The attached clipping illustrates the futility of this Canadian minority that seeks to solve the social problem of this Continent by calisthenics in drill halls, and by the use of European insignia.

The bogey of fascism on the North American Continent finds its only expression in French-Canadian Montreal, a factor which alone dooms it to be a minority movement of short duration.

Technocrats know that social change on this Continent will not be brought about by any minority movement, but by a mass movement of all Americans, traveling toward a goal laid down by the pattern of technology on this Continent.

Neither fascism nor communism nor any other social philosophy can have a place in the affairs of this Continent. The futility of the communists is on a par with that of the fascists. Only Technocracy forges ahead as a basically North American movement in conformity with North American conditions.

Fascism on this Continent, along with communism are "out" as social possibilities, but the impending critical situation, produced by advancing technology, must be met. Let all Technocrats, therefore, renew their efforts in the construction of the "Technological Army" of the New America.

B. C. Forbes, in his business column of March 3, quotes one "unnamed company" as describing their business experience in 1937, as follows: "For the first four months our business was unmistakably booming. The second four months went by before we could believe things were slipping. The last four months were spent by the corporation officials blaming one another for not noticing the reversal sooner."

The Human Equation in Social Change

UNDER the title, "Man or Machine?" the Cleveland Plain Dealer of February 14 editorializes as follows:

> Can democracy keep pace with industrial and mechanical progress?
>
> This question, many times posed, still lacks a definite answer. Probably no such answer is possible at the moment, since it must necessarily depend upon events still around one or two corners.
>
> Yet unless a satisfactory answer is found, and unless it is an affirmative one, one can hold little confidence concerning the future of democracy. Hence the importance of a continued effort to find the method by which the processes of democratic government can, in fact, adjust themselves to the ever-surging forward march of the machine.
>
> It is natural that this problem should be emphasized at such an occasion as the Inventors' Day luncheon of the Cleveland Chamber of Commerce. The amazing expansion of invention which has made modern industry possible is in large measure the fruit of the same era which saw the rise of political democracy. Industry has been democracy's servant. Is that servant, now grown powerful, to enslave its master?
>
> Waldemar B. Kaempffert, science editor of the New York Times, in his address at the inventors' luncheon, gave thoughtful consideration to this problem. He believes that democracy can "adapt itself to the great social changes brought about by the inventors and the engineers." But to do so, he warns, will require more development of social invention, an advance in the field of social science comparable to that achieved in recent decades in scores of technical lines.
>
> Kaempffert points out, "We haven't yet produced the counterpart of Brush and Bell and Edison in the field of social science."
>
> Not only have we failed to do so, but there is even greater danger that if we did produce them we would not recognize them. The struggle of the inventor of an age-changing device to win a public hearing is a familiar one. Even more difficult is the fight of the social pioneer to obtain consideration for a new pattern in human relations.
>
> This is understandable. A mechanical invention is tangible. Improved methods in social relationship are necessarily intangible. There is usually no profit incentive involved. On the contrary many a desirable social change imperils existing profits. There is nothing more formidable than a vested interest at bay.
>
> The intangible character of social invention hobbles its progress in another way. It is difficult to gauge such invention in definite terms. This is because the social and economic sciences, in spite of what some dogmatists insist, are not exact. The slide rule has not been made which accurately will measure the human equation.
>
> But in the final test, the human equation is the measure of progress. No mechanical problem is finally settled if it ignores its social aspects. And purely material progress can yield only fictitious gains when human values are neglected.

The admission by the Plain Dealer that social adjustment due to mechanical progress is now imperative is in refreshing contrast to the ballyhoo of the "vested interests." The latter in their sweeping manner tell us that all is well with the world because machines always create more jobs than they destroy, and bring in their wake increasingly better social conditions without any serious dislocations for the present or future.

The Plain Dealer also reverses the usual conclusion of the "saviors of democracy" in its suggestion that if there is to be any future for democracy as we now know it, it must be able to adjust itself as Kaempffert says, "to the great social changes brought about by the inventors and the engineers."

Again the editor of the P. D. strikes a distinctive note when he says that if we did have "the counterpart of Brush and Bell and Edison in the field of social science" we probably "would not recognize them." Not immediately, at least.

"Can't Change Human Nature!"

But at this point the Plain Dealer departs from reality in an attempt to show a basic distinction between what it calls "the social and economic sciences" and the so-called "exact sciences." While "the human equation is the measure of progress," according to the P. D. no one has found a scientific "slide-rule" for its measurement.

Here is the rock upon which are broken all those advocates of a "democracy and a Price System that must be preserved intact come what may." They do not take into account the probable reactions of the human factor in its developing social environment. These advocates have been conditioned to misread history, and to ignore the findings of authentic scientists regarding human behavior and its varied patterns. In their blindness and dumbness these would be saviours glance at the surface colors and

shapes of the trees without perception of the forest in all its fundamental simplicity. So, in their ignorance and incapacity, they either fight strawmen, or throw up their hands and shout: "You can't change human nature!" Or, "You never can tell what human beings will do!"

On the contrary, we do know quite conclusively what human beings will do in the presence of given circumstances. We know, for instance, about the fundamental urge toward self-preservation as regards individuals, groups, or society as a whole. Any prolonged interference with these basic needs for continued existence, whether that interference is from within or without the organisms, causes attempts at readjustment. Inertia admittedly is difficult to overcome, but with sufficient pressure it is bound to yield.

As a matter of fact, human beings have changed their behavior patterns frequently throughout history, without however at any time losing their inborn urge to self-preservation. Wars, famines, pestilences, discoveries in plant and animal domestication, extensions of the use of extraneous energy, have forced profound changes in individual and social habits from jungle days to modern high-energy civilizations. In most of these instances records are sufficient for us to analyze these changes in essential detail, and therefore to classify and to measure human behavior with a fairly accurate "slide-rule." In addition to, or in relation to, this historical material, scientists like Pavlov have delved deeply into the physiological structure and functioning of the human brain and nervous system and have demonstrated scientifically "how a human being reacts to inborn as well as external stimuli." These scientific observations have been made also as to group behavior patterns. In other words, inexpert opinions as to "human nature" have been supplanted by verifiable data as to human behavior.

Social Mechanics vs. "Opinions"

Applying this to America: at the present moment due to the technological impact we see economic and social conditions threatening our very civilization. Inferentially, America's "rendezvous with destiny" is near at hand. But since "the human equation is the measure of progress" we find America apparently slowed down in this direction, temporarily at least, by a multitude of opinions as to what should be done. But that this factor is changing rapidly, is everywhere in evidence. Almost daily, in the vicinity of the Plain Dealer office in Cleveland, business men and other citizens are heard to say: "This situation is intolerable, but I don't know what to do about it."

Howard Scott was quoted in one of his recent speeches in the West as saying: "Only when there is zero opinion in the arrival of any social decision will there be a maximum of personal choice and selectivity." In other words, when "molders of public opinion" like the Plain Dealer, along with politicians of all stripes, and other apologists for our Price System throw up their hands, like the aforesaid businessmen and like many more millions of our people, and quit giving vent to irrelevant "opinions"—only then will those who know what to do and how to do it have a free hand to apply the social mechanics required to solve our problems.

That these "knowing ones" are here, is beyond doubt. And they are not "counterparts of Brush and Bell and Edison" who for the most part worked in the dark, but are rather like their more modern successors, with a thorough knowledge of the fundamental laws of social development, and with up-to-date materials for application of that knowledge.

Making Ore Flow Uphill

The underground belt conveyor system introduced sometime ago in the coal mines of the U. S. Steel Corporation in Pennsylvania, whereby coal is transported underground for 4½ miles to the docks, has recently been installed in the ore mines on the Missabe Range in Minnesota.

According to "U. S. Steel News," February, 1938, the ore conveyor system consists of nine separate continuous belts, each feeding the belt beyond. The conveyor carries the ore a distance of 4,500 feet with a total vertical lift in that distance of 386 feet. The ore moves at the rate of 500 feet a minute in quantities totaling 750 long tons an hour. The end of this climbing stream is a 500-ton, 50-feet high, receiving pocket, from which the ore is drawn into cars for rail shipment to the docks at Duluth and Two Harbors. At the mine pit on the lower end is a tower excavator, with a power drag scraper that pulls the ore up onto the conveyor.

This set-up replaced the old track and switchback system, which had become too slow, inefficient and costly, owing to the increasing depth of the open-pit iron mines. The new process is adjustable, automatic, and continuous. The illustrations in "U. S. Steel News" show no human beings cluttering up the scene of operations.

Howard Scott, Music Hall, April 18

Functional Ability and the Social Mechanism

By A. S. Worsey, 8141-3, Akron

JOHN Q. CITIZEN does not go to a garage for a hair cut. Neither does he get nis carburetor adjusted at the barbershop. Common sense dictates the person to whom he shall apply when he needs a service of any kind and that same common sense directs him to a barbershop when he wants a haircut and to a garage when his car is in need of repairs. As we Technocrats put it, John Q seeks out the most "functionally capable" person he can find when he wants a job done. In other words, he looks for a specialist in that particular line of work.

We live in an age of specialization. The tinker and the jack-of-all-trades have passed trom the scene. So much knowledge has accumulated in every branch of science and engineering that no individual can ever hope to absorb it all. Hence the specialists.

It takes years of hard study to learn dentistry. The same is true of optometry. While the dentist and the optometrist must necessarily have a general knowledge of the construction and functions of all the organs of the human body, no dentist would undertake to fit a near-sighted person with glasses. Neither would an optometrist attempt to fill a decayed molar. The general practitioner has evolved into a host of medical and surgical specialists. We have brain specialists, baby specialists, eye specialists, ear specialists, heart specialists, and nerve specialists. In fact there is a specialist for every organ and function of the body, and we would no more think of going to one specialist when our ailment lies in the specialized field of another, than we would contemplate going to a garage for a haircut. Specialization or "functional ability" is the order of the day, and man's life expectancy has increased in proportion to the number of capable specialists.

Engineering was originally an adjunct to military operations. The engineer was called upon to construct fortifications, catapults, moats, bridges, etc. The engineering principles developed by the military engineer were later applied to civil pursuits by the civil engineer, who would build you a barn, waterwheel, millrace, windmill, canal, bridge, or road.

As the body of engineering knowledge grew, specialization came into being. We now have chemical, civil, mechanical, automotive, aeronautical, heating, ventilating, and a score of other types of engineers, each a specialist in his particular field.

If we wish to install an electrically driven machine, we call in an electrical engineer, who tells us the exact type and capacity of the motor needed. That is his business; he is functionally capable of doing the job.

The growth of scientific knowledge has been accompanied by the expansion and specialization of the productive plant. So interdependent have these specialized parts of the productive machine become that a strike by a mere handful of workers in an obscure plant of the flat glass manufacturing industry, seriously handicapped the automobile assembly lines in Detroit, which, in turn, caused a curtailment of ore and coal mining, the disuse of ore boats and railroad equipment and threw thousands of employes, in seemingly unrelated capacities, out of employment.

It is becoming increasingly apparent that this complex technical creation must be operated as a unit. Its various sequences must be co-ordinated by production experts whose duty it will be to see that the flow lines do not become clogged at one point by an excess of some material while a dearth of another necessary material delays production at another point. We have these experts and we have the raw materials and physical equipment to assure every individual on the North American continent an abundance of goods and services, the like of which has never been known on the earth before. Remove the obstacles from the paths of the functionally capable men and women of the area and this abundance will be forthcoming.

While we are rather finicky about who cuts our hair, repairs our automobile, or excavates our appendix, we remain apathetic when it comes to a choice of persons who control our social destiny. We demand functionally capable people to perform personal services, yet we submit to, and even elect the most incompetent people in the land to operate our social mechanism. We permit grocery keepers, garage men, and insurance agents to dictate the kind of streets we shall have, how they shall be lighted, and the traffic regulated thereon. We suffer them to spend public money on a multitude of projects about which they know absolutely nothing. To the higher political offices, we elect lawyers, who, as a rule, are men who have done none too well in the practice of their profession. To them we entrust such vital matters as peace and war, conserva-

tion of natural resources, and the "general welfare." We applaud wildly when they spend millions on a discredited hydrology project while competent engineers suffer in silence. The men who dominate such undertakings should know less about equity and more about physics; nothing about law and all about gravity.

Another class of functional incompetents are the financiers. While the politicians are tariffing and taxing, encouraging and prohibiting, subsidizing and regulating this or that part of the productive plant, the financiers are coercing their technically trained and functionally capable employes to produce inferior goods in the interest of profit and in quantities small enough to insure the "price structure," regardless of the plant's capacity or the needs of the population. As a result of the combined influence of the politicians and the financiers, the social mechanism is continually out of adjustment. It is wasteful of energy and resources; and its performance is absurdly inadequate in the light of present day knowledge of science and engineering.

Technocracy points out that the technologist and the engineer have jointly created a productive machine here on the North American continent of such extreme intricacy and delicate balance that its operation can no longer be entrusted to bombastic empirics nor can its maintenance be left to the futile tinkering of bewildered alley mechanics. Qualified experts, functionally capable men and women are needed for the job.

Technocracy subscribes, wholeheartedly, to the ancient preachment that "the shoemaker should stick to his last." Aptitude, training, and proven performance are the only logical criteria by which a man's position can be rightly determined in a high energy civilization. Technocracy proposes to remove all of the political and financial square pegs from the round holes of the social mechanism and replace them with precision-made parts which will function as indicated in the blue-print.

———●———

Section 3 of Akron is not only promoting their big Scott meeting in the Armory for April 21, but are also helping promote Scott meetings at Canton, Youngstown and Dayton. Section 2 and Cleveland Headquarters are promoting a Scott meeting in Toledo, and also helping Detroit. Look for some results from this tour.

Extension Study Class

Several inquiries have come from different Sections of Technocracy Inc. about this innovation mentioned in the October number of EIGHTY-ONE FORTY-ONE. The term used, namely: "Extension Study Course" may be a bit confusing.

For some time the Board of Governors of Section 2, Cleveland, had been puzzled as to how we might keep together those members who had completed the Study Course and who didn't care to go over it again in the same manner. So they announced the formation of this new "Extension Class." It has been a success to date.

But we really do not go beyond the scope of the regular Study Course for our basic material. We could not do that, without going outside of Technocracy and its analysis. In this class we have merely opened up a bit, by taking up various subjects for discussion from a Technocratic standpoint.

For instance, the class started with the subject of the "Vertical Alignment" as outlined in Lesson 21 with the chart, discussing in particular the set-up of one or more of the Industrial and Service Divisions and their probable structure, and showing how the general set-up of the Technate must operate in accordance with the job in prospect and to the confusion of any would-be individual or group dictatorship. A second discussion dealt with some of the operational characteristics of the Technate as suggested in Lesson 22. We have had discussions on such subjects as "Technological Unemployment" with convincing and conclusive figures from the leader of the discussion. One of our members who is a dry cleaner gave us a very lucid study of textiles, particularly rayon, and illustrated the shoddy methods of clothing manufacturers. He had plenty of samples and explained their qualities and reactions to cleaning, etc. These are but a few of the possibilities of such a class.

Our procedure is to call for subjects for several weeks in advance. Some member prepares a short talk on the subject. Questions and discussion follow. Outsiders, who have read our literature and are interested, are also invited to these sessions. Speakers are being developed through this class, and we are all extending our knowledge of Technocracy in association with our fellows, instead of dropping such activity as individuals after having completed the regular Study Course.

———●———

Howard Scott, Music Hall, April 18

Flashes of American History

VII—Kelly Makes a Discovery in Steel

By Ben H. Williams

WHEN Andrew Jackson came out of the Tennessee wilderness in 1829. his long and tedious journey to the White House had to be made by horseback and stage. And yet this doubty protagonist of rural self-sufficiency of an ox-cart era was about to do battle Quixotic-like with physical and social forces of a new and dynamic character. The United States was on the threshhold of the Machine Age—of a technological advance in industry and agriculture that very soon should render Jeffersonian and Jacksonian "democracy" and all other ox-cart concepts not only obsolete but dangerously "reactionary."

In the 30 years following Jackson's inauguration, America emerged a considerable distance out of her rural and sectional isolationism into a daily-changing world of canals, railroads, steamships, textile factories with improved devices, clothing factories with sewing machines, farms with grain reapers and other implements and along with these, an oligarchy of bankers, railway promoters, and industrial enterprisers of all categories to keep pace with expanding industry and commerce.

Some Retarding Physical Handicaps

Apart from this. however, the history of technology shows in many instances how advance in a given direction is often halted or retarded by want of some contributory device or invention. As previously noted, for example, notwithstanding the revolutionary applications of machinery in the British textile industry up to the last decade of the eighteenth century, "the arch of that industry still lacked its keystone": an adequate supply of cotton. Whitney's cotton gin in 1793 was the answer to that problem. In another instance, the clothing industry was doomed to remain a small household affair until the sewing machine about the middle of the last century initiated a similar expansion through the large factory system.

In the aforementioned period, from 1830 to 1860, the Machine Age was seriously retarded for want of an efficient and speedy method for quantitative production of steel. Known methods of smelting iron ore and converting the cast iron into malleable iron or steel involved a lot of reprocessing of small quantities at excessive energy and money costs. The urgent necessity of overcoming this handicap was recognized in Great Britain and the United States. Railroads needed better rails and more of them; machine and hand tools were costly and inefficient; the type of steel required for Deere and Oliver plows was extremely expensive and difficult to obtain.

A Simultaneous Discovery

Two of these urgent needs for more and cheaper iron led near the close of this period to a revolutionary discovery almost simultaneously on both sides of the Atlantic. One need was for more and better firearms; the other for more iron kettles in which to boil maple sap, scald pigs, or make soap.

Two men of an inventive turn of mind—a Britisher engaged with the improvement of war munitions, an American with the making of iron kettles—independently hit upon the discovery of converting pig iron directly into steel. The credit for the discovery has gone to the Englishman—Sir Henry Bessemer—and bears the familiar name of the Bessemer Process. But William Kelly, a Kentucky "hill-billy," really made the discovery several years ahead of Bessemer.

> "In his plant near Eddyville, Kentucky, about 1846," says L. W. Spring, "Kelly invented a process for making large sugar-boiling kettles for the Southern planters, and in seeking to make better and cheaper wrought iron for his kettles, he discovered the same process as Bessemer—that a steady blast of air alone would refine iron and convert it into steel. Ironmakers laughed at the idea, Kelly's father-in-law threatened to withdraw money from his ironworks, and his customers, hearing that he had a 'new-fangled way of refining iron' insisted that they wanted iron in the regular way or not at all. Then the ore supplies near his ironworks gave out. Despite these difficulties, he worked on his process in secret, built a converter in 1851 at the Cambria Iron Works, in Johnstown, Pennsylvania, and hearing of Bessemer's process, patented his converter in 1857. Some authorities give Kelly credit for being the first inventor in this field."

Nor did Bessemer meet with smooth sailing in the introduction of his new process. Ironmakers who first tried his method failed to get expected results. The steel they produced was brittle. Lacking scientific knowledge, these manufacturers were helpless in

determining the cause, and rejected Bessemer's invention. So Bessemer set out to prove that he was right. He found that the iron he used in his experiments had a low phosphorous content. That produced good steel. The iron used by his customers had a high content of phosphorous, which accounted for the brittleness of the steel product. Having thus discovered the cause and the remedy, Bessemer found himself still unable to interest the manufacturers in his process, until after he had built himself a plant and demonstrated his method beyond a doubt. Eventually the process came into general use throughout the industrial world, only to be superseded in large part by the open hearth method of a later date.

It is unnecessary here to give a description of the Bessemer-Kelly process. But our readers are urged to get a copy of L. W. Spring's "Story of Iron and Steel" and read the dramatic account of how Bessemer made the discovery in 1856. Spring closes his story with this observation:

> "Bessemer was the father of the steel age. Without him there might be no transcontinental railroads, no skyscrapers, no great bridges, ocean liners, or Panama Canals. In the development of the industrial world as we know it today, he stands next to Watt, the inventor of the steam-engine."

Meanwhile, at this point in American history, the several streams of technological development begin to converge into one mighty river. The individual achievement becomes less noticeable in the larger current; the individual inventor or technologist is about to become a mere attache of the entrepreneur, who in turn is about to lose his character of "rugged individualist" and to become a mere cog in the giant corporation and holding company of the twentieth century. Technology marches on the double quick!

But before we pass on to the Power Age, let us tarry awhile longer in the early Machine Age and view some more outpourings of the smaller streams of technological development in America. My next "Flash" will treat of the subject, "An American Introduces the Sewing Machine."

Reference:

Waldemar Kaempffert, "A Popular History of American Invention," Volume II, Chapter 1; "The Story of Iron and Steel," by L. W. Spring.

———•———

Howard Scott, Music Hall, April 18

Akron Technocrats on the Move

By L. S. Oswald, 8141-3

Two months ago Section Three of R. D. 8141 began the organization of new Sections in adjoining towns and cities. These organizational activities were undertaken eight months after the issuance of its charter.

Due to the departure of its organizer, Claude LeDuc for another city, the Section was left without the services of an organizer approved by CHQ. Section members cooperating with the Board of Governors and Ben H. Williams, director of Section Two, made possible the advancement of activities in spite of the handicap.

CHQ recently appointed George Syler, governor of Intersection Relations, as field organizer. Mr. Syler is a charter member of Section Three. Dr. Davison Moore, director of the Section, and Mr. Syler have now advanced organizational work in suburban Cuyahoga Falls to the point where a Study Group has been started. In addition organization work is being pushed in Rittman, Medina, Canton, and Barberton.

Immediate activities of the Section are now being directed toward promotional work in connection with the lecture tour of Howard Scott, who is scheduled to speak at Akron Armory on April 21.

Mr. Scott is also being scheduled to broadcast a fifteen-minute address over radio station WJW on April 20.

Activities of Section Three have now progressed to the point where study groups are being held four times weekly to care for the influx of new members. In addition Public Speaking classes are being conducted every Monday and Friday evening, and a teacher's study group assembles on Sunday morning.

The standardization of instruction methods accomplished through the Teachers' Study Course has proven effective. Standard questions and summaries, in addition to condensed information on related subjects, has made it possible for the teaching staff of five men to direct class work on any lesson, in complete coordination.

———•———

Good news from CHQ just as we go to press: "The next issue of 'Technocracy' (A-11) will be in the hands of its subscribers within three weeks. With this issue we can announce that 'A-12' will follow closely and that a more consistent publication schedule will be maintained thereafter." Subscribe for "Technocracy" now. Eight numbers for $1.00; 12 for $1.50. Subscriptions taken at Cleveland Headquarters or at your nearest Section headquarters.

Howard Scott as a Forecaster of Events

MEMBERS and supporters of Technocracy in Cleveland and vicinity are now busy promoting the big public meeting in the Music Hall of Cleveland Public Auditorium, at which Howard Scott, Director-in-Chief of Technocracy Inc., will speak on April 18.

Mr. Scott's theme will be "The Course of Events in America." In view of Scott's unbroken record as an accurate forecaster of events, every thinking citizen will be eager to hear what he has to say at this most critical and "searing" period of American history.

In 1921, after several years of painstaking study of social trends, Scott predicted a major breakdown of American industry and commerce by the spring of 1930. As everyone knows, that breakdown came in the fall of 1929.

In the summer of 1932, Scott stated publicly that the U. S. banks would close their doors on or before April 1, 1933, and would reopen only through Federal aid. The first part of that prediction was fulfilled on March 4, 1933, while the second part followed more leisurely under the New Deal.

Again, in 1932, Mr. Scott, having measured the rate of the technological advance since 1929, stated that if and when the United States should recover to the level of 1929 production, industry would find itself unable to reemploy more than 55% of the number of those out of work in 1932. Unemployed at that moment were estimated at 17,000,000. At the third quarter of 1937 the volume of production had arrived within 12% of the 1929 volume, and the Government's Unemployment Census found 11.000,000 out of work.

In September, 1937, in a newspaper interview at Vancouver, B. C., Scott was quoted as predicting "another depression which, at the present rate, in two years will find 40,000,000 out of work in the United States and 3,000 000 in Canada." "And believe me," said Scott, "forty million Americans can't be wrong."

These predictions are not those of a soothsayer or clairvoyant, but of a scientist and engineer, measuring materials and predicting most probable outcomes from known facts. John T. Flynn, in a recent press release, tells us that "all these problems—farm, unemployment, investment, security—come down to one central, underlying proposition: how does the capitalist system work?" Flynn adds: "However it may work, it has not been doing so for nearly nine years. The business men who completely dominated it and made its laws and its culture and its plans in the 20's certainly made a magnificent mess of it. Mr. Hoover had a try for over three years. He ended at the bottom of the record-breaking depression of all times. Then Mr. Roosevelt took it on. He tried all sorts of medicine and now at the end of five years he is almost back where he started from plus a debt of $20,000,000,000."

Howard Scott knows how the Price System works, and where America is heading for under that system. And that brings us to another of his predictions, namely: that our American system of exchange has about reached the point of non-functioning and, within the next decade, must be replaced by a New Social Design in conformity with American conditions. That new social design has been worked out in the same careful detail by Technocracy Inc., of which Mr. Scott is the Director-in-Chief.

Citizens of all groups are therefore urged to come to the Music Hall on April 18, get these facts and learn the only way out of this mess. Tickets are now on sale at the Cleveland Headquarters of Technocracy Inc., 791 The Old Arcade. Call there or phone MAin 8745 for reservations. Tickets are 60c and 40c.

Organizing in the East

A campaign to organize the industrial east with Section 7340-1, New York, as the focal point was begun in January and plans have been made for accelerated activity. On January 8th a preliminary conference was held in Philadelphia, Regional Division 7539.

On January 15 and 16 a "flying squadron" composed of M. King Hubbert, Director of Education, CHQ Staff; Leon W. Dean, Field Organizer for New England; Paul Brown Corr and Raymond C. Wardel made a trip to Mansfield, Mass., R. D. 7142. Mr. Hubbert spoke at a public meeting on the 15th, and an organization meeting was held on the 16th which was attended by people from Mansfield and surrounding cities and towns.

On January 29, Allen L. Langley, Field Organizer R. D. 7340; Paul B. Corr, Frank Lumia, Clifford S. Williams, and Field Organizer Leon W. Dean drove to Philadelphia and held a meeting at the Hotel Broadwood. An organization meeting followed addresses by Langley and Corr.—Organization Com. 7340.

Howard Scott at Akron Armory, April 21.

New Possibilities From Coal

By Our Technology Observer

We have 174.800 miles of pipe lines in this country, 65,000 of which transport natural gas, the remainder are gasoline and petroleum lines. As our cities are large consumers of gas, both natural and manufactured (which is the proper term for that gas we call artificial) it has been suggested many times, that it would be a far more efficient method to gas the goal at the mines, save the by-products, and by means of gas and coke, do away with the smoke and soot of our cities and also do away with the attendant damage caused by our inefficient methods.

The coal used in the city of Chicago is filled with impurities. On an average day in the Chicago district, according to Prof. C. C. Furnas in his book, "The Next Hundred Years," about 2 500 tons of sulphurous acid comes down upon the population. Engineering estimates place this damage at $50,000,000 per year exclusive of soiled houses and injured health.

When our present administration began building dams for the purposes of flood control and the generating of electric current, Price System prophets predicted that current production would be far ahead of consumption and valuable plants and machinery would stand idle for years.

A method of coal coking by electricity has been developed that can use a lot of excess current, as gas can be stored while electricity cannot. This gas can be produced at the low hours of electrical consumption in the homes and industries, and in this way enable the generators to carry a fuller load at all hours.

The Old Bee-Hive Coke Oven

In order to comprehend the efficiency of the new process one must know something of the old. The old type of coke furnace, known as the by-product oven, originated in Germany and somewhat resembled one large bee-hive with a smaller one inside. The coal to be coked was placed in the smaller oven and the flame or fuel used for heating was burned in the spaces between the two. As the mass was heated from the outside, the heat had to penetrate the oven wall before it reached the coal and some of the heat was lost on the outer wall.

Electric Coke Furnace

The electric furnace is a large steel cylinder lined with fire clay, set upon a steel base. A steel cover makes the furnace air tight. The top and bottom are the electrodes. When the furnace is to be filled a sheet steel tube is placed in the center, and filled with small coke, the remaining space filled with coal. The coke is a better conductor of electricity than the surrounding coal. Before the furnace is covered the tube is withdrawn. When the current is turned on the core becomes white hot; as the surrounding coal melts together this ring of burning coal becomes the path of least resistance. This ever-widening ring soon turns the coal to coke and drives out the by-products.

The electric furnace can be made to yield either three times as much tar as the old by-product or else make coke six times as fast. Mass production is possible on a scale many times as great as by the old process, the operating costs are lower and a much smaller initial investment is needed. In case of an overproduction of coke the water-gas process can be brought into use and the coke completely gassified.

In connection with this account it is interesting to note that one ton of Pittsburgh seam coal can make 10,000 cubic feet of gas containing 525 British thermal units per cubic foot, 1400 pounds of coke and 15 gallons of tar.

This data is from "Scientific American," November, 1937, and "The Next Hundred Years," by C. C. Furnas.

Organization in 8141

The work of expanding the organizations of Technocracy Inc., in this area, is going on apace. At least three Provisional Sections are nearing charter requirements, and hope to present their charters to the Chief, Howard Scott, on his arrival here in April. This means a substantial increase in the number of live Technocrats and an accelerating expansion of Technocracy in 8141.

The Sections here are also entrusted with the job of staging public meetings for Howard Scott on this tour in Youngstown, Canton, Toledo and Dayton, and preliminary arrangements have already been made for these. New speakers and organizers are coming to the front, and are finding plenty of work conducting study classes, holding house meetings, and filling dates with other groups who are now showing an unusual interest in Technocracy. Every effort will be made to take full advantage of the interest aroused through the Chief's meetings for making Technocracy known to everybody and to gain active recruits for the Technological Army of the New America.

Technocracy—the only way out of "recessions."

Old News to Technocrats

" 'Western civilization faces a choice between Utopia and catastrophe,' Dr. Harry Elmer Barnes, historian and Scripps-Howard columnist, told a meeting of the Progressive Education Association's National Conference at the Hotel Pennsylvania today . . .," reports the New York World-Telegram of February 25. Contrasting the dire results of a possible catastrophe with the benefits expected from planned economy, Dr. Barnes said:

"If we overhaul our economic system, put our unparalleled mechanical equipment at the service of mankind and wipe out the menace of war, we can, within a decade step into a condition which will make any of the Utopias from Plato to Fourier seem drab, trivial and uninviting. This does not mean that we must wait for future mechanical marvels. The technology and natural resources are already at hand.

"In the United States we could provide a far higher standard of living than has ever been known, and could make it available to the masses with less than thirty hours of work each week. This is one side of the picture. If we do not rise to our responsibilities, and make the most of our unprecedented mechanical equipment, then the whole economic machine is bound to break down within a few years. If we continue on the road of evasion (and decline), the best we can hope for is insecurity, lower standards of living, greater unemployment, unrelieved want, misery and sheer starvation. To this is likely to be added wholesale destruction of physical equipment and civilized amenities through warfare."

Two days previously (February 23) Dr. Barnes wrote in his column in the World-Telegram: " . . . But far and away the major reason for the unprecedented menace of unemployment is what we call technological unemployment, or the displacement of men by machines. Nothing like the present situation in this respect has ever before existed. In the first place, the labor-saving machines of today are becoming more and more impressive and momentous. Their introduction means the displacement of ever more men by each new machine. In the second place, we no longer have an expanding and dynamic economy which can satisfactorily absorb displaced workmen in new or expanding industries. As if to make matters worse than they might be otherwise, this labor-saving is usually introduced in times of a depression or recession, thus increasing the already serious volume of unemployment. . . . With its right hand American industry is demanding that the government keep out of industrial activities. But with its left hand it is constantly throwing thousands of displaced workers into the lap of the government where they must be employed on government enterprises."

Continental Headquarters of Technocracy Inc., 250 E. 43d St., New York, announces that "TECHNOCRACY," our Official Magazine, will be issued more regularly from now on. L. M. Dickson, who so ably piloted the "Technocracy Digest" of Vancouver through more than three years without missing an issue, has been added to the New York staff of the Division of Publications. Plans are under way for making our magazine truly representative of Technocracy's best, by calling to its aid the contributions of its ablest writers from all over the Continent. Subscribe for "TECHNOCRACY" now at Cleveland headquarters or at those of your nearest Section. Eight numbers, $1.00; 12 numbers, $1.50.

Out of Greater New York's 8,000 000 population it is estimated that 1,224,000 are dependent upon public relief, according to an International News Service release of February 15. The WPA ultimately hopes to create 500,000 new jobs in the metropolitan area.

Dr. J. A. Doull, chairman of the Academy of Medicine-Cleveland Health Council joint committee on social diseases, recently estimated that 68,000 persons in Cleveland needed treatment for syphilis, according to the Cleveland News of February 16.

Says John T. Flynn: "We must make up our minds either to make the capitalist system work or to try to hasten its demise to make way for another system." Don't take on either job, John. For "we" can't make it work, and "we" don't need to bother about its demise. The march of the machine is taking care of that. Important thing is to help form the Technological Army to take care of what is to follow.

The Music Hall of Cleveland Public Auditorium seats 3000. Technocrats are now selling tickets for the big Scott meeting on April 18. Their goal is a full house. Get your reservations early.

Attractive automobile signs advertising the big Scott meeting in Cleveland will soon be available at Cleveland Headquarters of Technocracy Inc. Call there for particulars.

TENTATIVE ITINERARY
HOWARD SCOTT TOUR, SPRING, 1938

•

Cleveland	April 17, 18, 19
Akron	April 20, 21, 22
Cleveland	April 23
Toledo	April 24, 25
Detroit	April 26, 27, 28
Chicago	April 29, 30, May 1
Milwaukee	May 2
Appleton	May 3
Milwaukee	May 4
St. Louis	May 5, 6, 7
Indianapolis	May 8, 9
Dayton	May 10
Canton	May 11
Youngstown	May 12
Wheeling	May 13, 14
Pittsburgh	May 15, 16, 17